

Women with Psoriasis – Distinct Unmet Needs of Women with Psoriasis, Including Women of Childbearing Age

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Driven by science.



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EDITS NOT PERMITTED



Patients with PSO Have a High Burden of Disease, Leading to Reduced Quality of Life

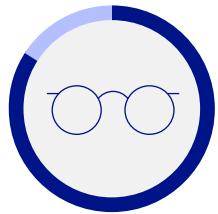
In comparison to healthy controls, patients with PSO have significantly:¹

Higher anxiety
($p=0.032$)^a

Stronger feelings of loneliness
and isolation
($p=0.033$)^b

Lower self-esteem
($p<0.0001$)^c

The social stigma can be devastating for patients with PSO:²



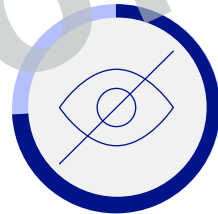
84%

Feel being stared at



76%

Fear passing
PSO on to their
children



74%

Prefer not to be
seen in public
during a flare



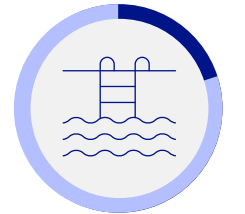
48%

Reported feeling like
an outcast



26%

Reported incidents in
which others made a
conscious effort not
to touch them

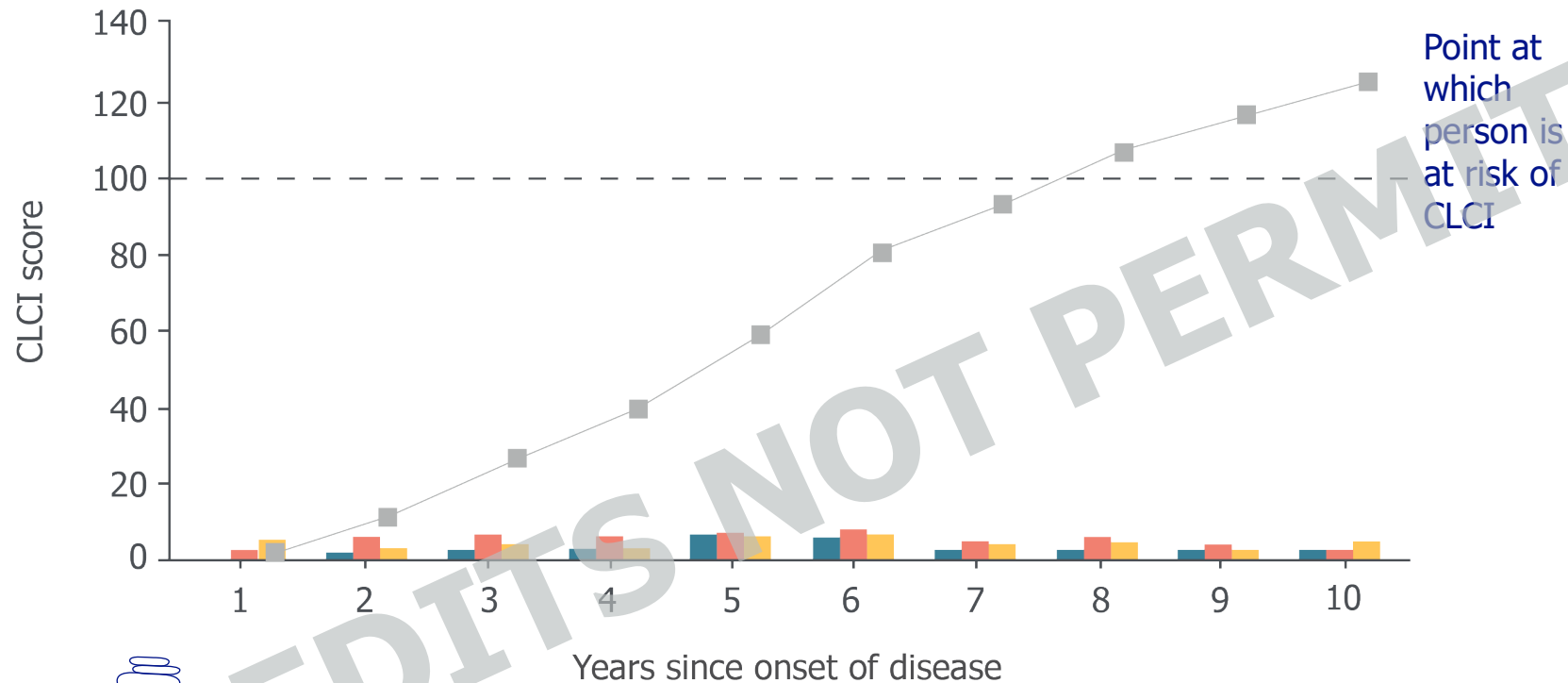


20%

Were asked to leave
public pools

Patients' Burden of Disease is Cumulative Over Time

Hypothetical impact of disease condition over a patient's life course¹



Point at which person is at risk of CLCI

KEY MESSAGE

Patients believe that their lives would have been substantially different without the impact of the disease.² Even when a patient is performing well at a particular timepoint, she/he may still have significant life course impairment due to the cumulative impact of past events.¹

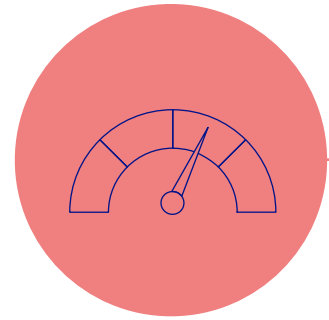


- Physical co-morbidity
- Psychological co-morbidity
- Stigma
- Total CLCI score

Core components of the CLCI score include life-long effects of physical comorbidities, stigma, psychological comorbidities, and the economic and social consequences, which have the potential to place each patient with PSO at risk of not living their life to their full potential. CLCI: cumulative life course impairment.

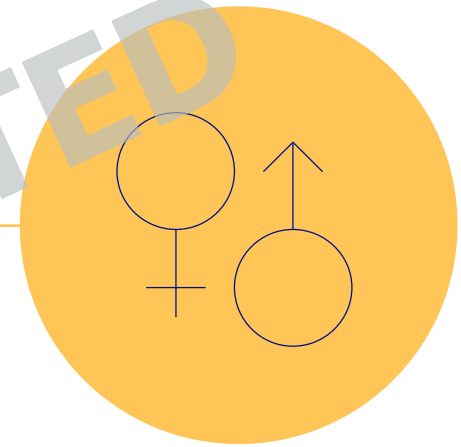
1. Adapted from Kimball AB et al. J EADV. 2010;24:989-1004.
2. Ros S et al. Actas Dermosifiliogr. 2014;105(2):128-134.

Quality of Life is Impacted by Many Factors



Disease Severity¹

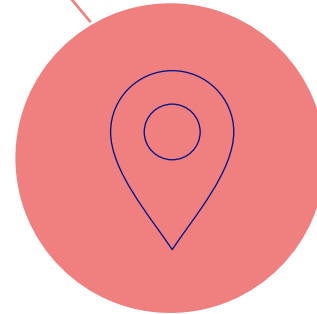
WHAT COULD IMPACT THE QOL OF A PATIENT WITH PSO?



Gender⁴



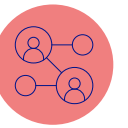
Age of Onset²



Location of Lesions³

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Prevalence of PSO in Women



Female mean age of PSO onset: 28 years¹

Bimodal onset at:²



Onset during peak reproductive years (18–45 years) presents specific challenges for treatment³

Associated with 2 different subtypes based on genetic and immunological features:²

Early onset, before the age of 40 years

75% of cases

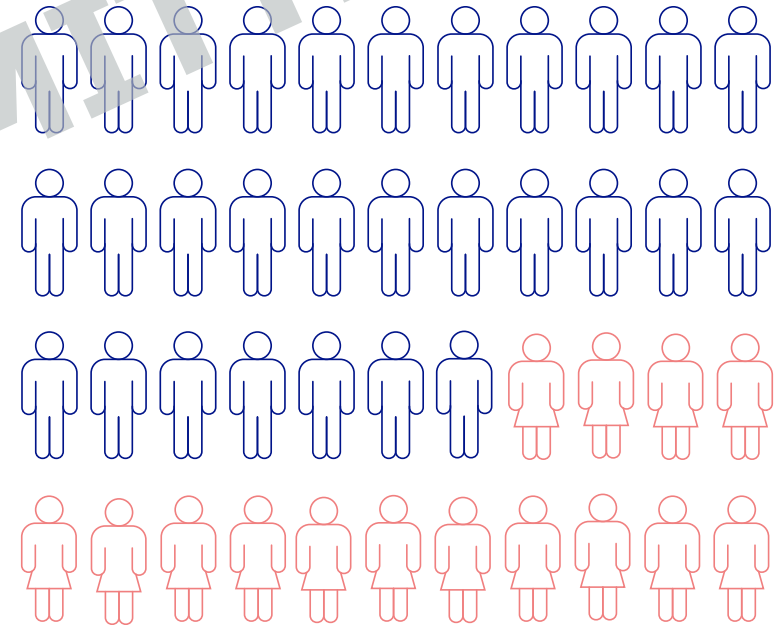


Late onset, after the age of 40 years

25% of cases



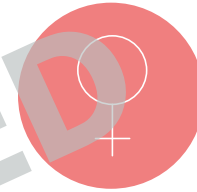
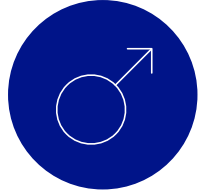
PSO occurs **equally in males and females**;² however, females are **underrepresented in PSO clinical trials**^{4,5}



33% of participants in PSO clinical trials are female⁴

1. Tauscher AE et al. J Cutan Med Surg. 2002;6(6):561–570. 2. Griffiths CEM et al. Lancet. 2021;397(10281):1301–1315. 3. Gottlieb AB et al. Int J Womens Dermatol. 2019;5(3):141–150. 4. Ding J et al. J Am Acad Dermatol. 2022;87(6):1386–1389. 5. Warren RB et al. Br J Dermatol. 2021;184(1):50–59.

Gender Differences in Clinical Expression, Severity and Patient-Reported Outcomes



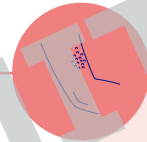
Nail PSO is slightly more common in men than women



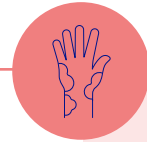
Genital involvement is reported more frequently in men than in women



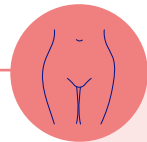
Women tend to present **pruritus** more frequently than men (36% vs 25%) and of higher intensity



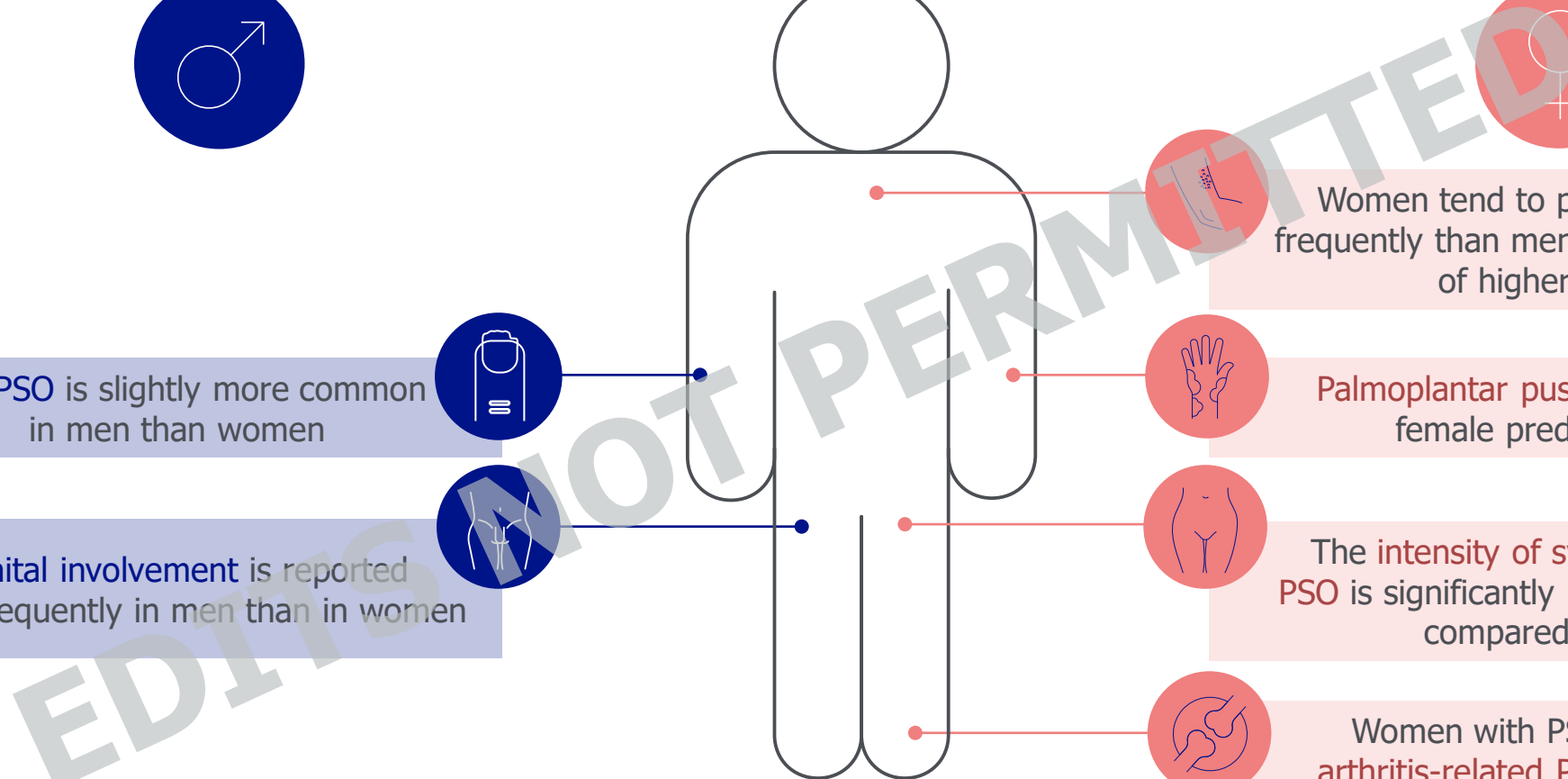
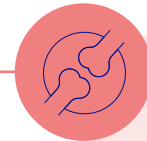
Palmoplantar pustulosis shows a clear female predominance



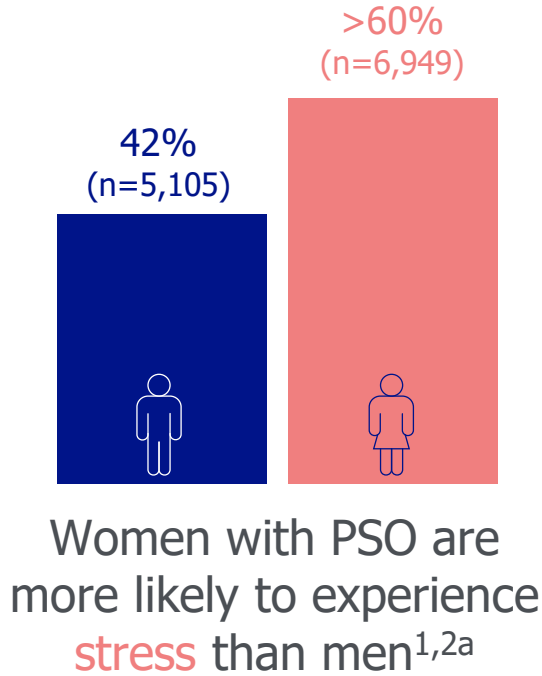
The **intensity of symptoms of genital PSO** is significantly higher for women compared to men



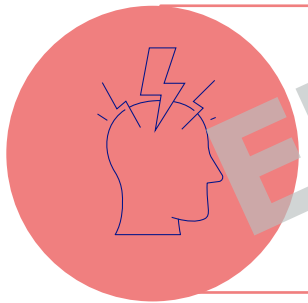
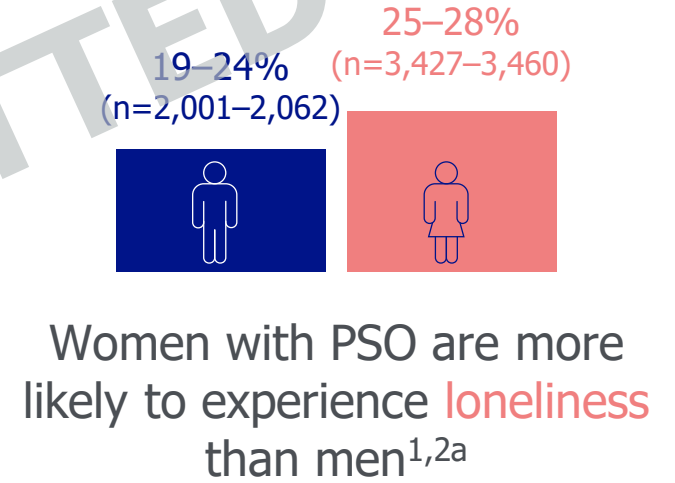
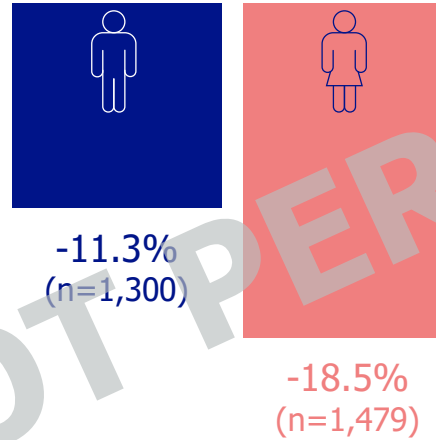
Women with PSO **score worse** in **arthritis-related PROs** with more joints affected, higher levels of pain and poorer functional prognosis than men



Psychological Impact of PSO in Men and Women



Happiness (life satisfaction) gap compared with general population in patients with severe PSO^{1,2a}



Women with PSO also feel significantly more:^{3,4}

- **Shame** (N=936; AOR=1.6)
- **Worry** (N=936; AOR=1.8)
- **Annoyance** (N=936; AOR=1.9)

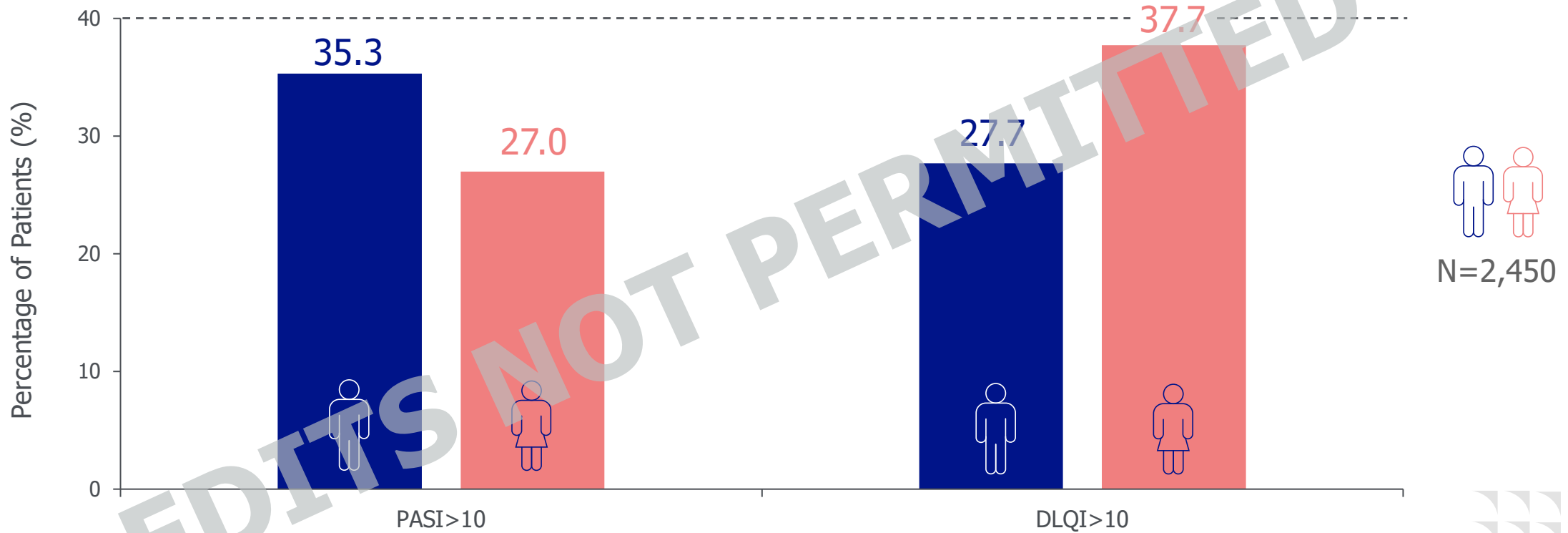
KEY MESSAGE

Women with severe PSO experience a greater negative impact on their happiness compared to men.¹

^aData from World Psoriasis Happiness Report 2017. Happiness data collected via the 'PsoHappy' app, using validated survey models that explore mental well-being aspects such as stress, social support, self-esteem and loneliness, as well as original methodologies and open-ended questions that captured the experiences and motions of respondents. Life satisfaction was assessed via the Cantril Ladder.

1. Gottlieb AB et al. Int J Womens Dermatol. 2019;5(3):141-150. 2. LEO Innovation Lab and The Happiness Research Institute. World Psoriasis Happiness Report 2017. Available at: https://docs.wixstatic.com/ugd/928487_d405a5c58b8e42ae8e2a84112fada89a.pdf?index=tr. Accessed on April 2024. 3. González-Cantero Á et al. Int J Womens Dermatol. 2023;9(4):e112. 4. Sampogna F et al. Acta Derm Venereol. 2012;92(3):299-303.

Women Experience Lower Quality of Life Despite Lower Clinical Symptoms¹



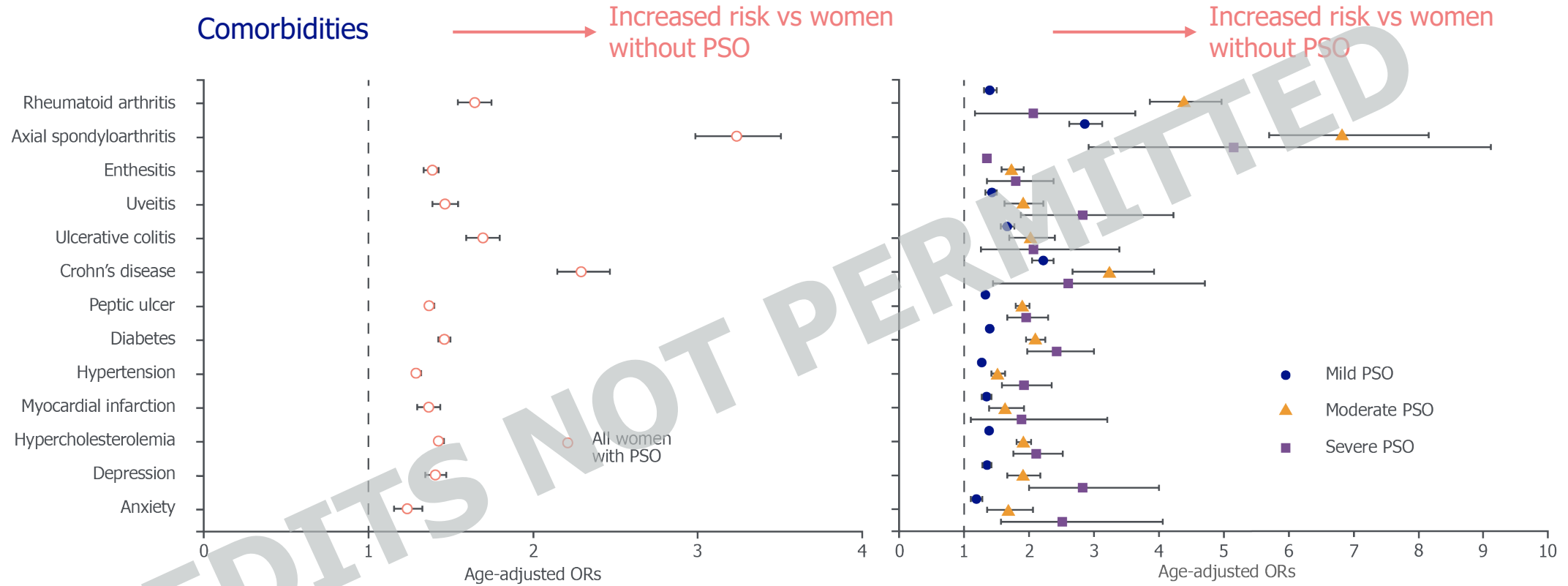
KEY MESSAGE

The higher impact on quality of life in women is independent of age, self-reported extent and severity measured by PASI or itch; this has been observed with different tools such as the DLQI, the QoL-Skinex-17, and the SF-36.²



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Comorbidities are Common in Women with PSO and Increase with Disease Severity



KEY MESSAGE Women with PSO had higher odds of all investigated comorbidities compared with women without PSO, with an increase in odds from mild to severe PSO.^a

77,143 women met the criteria for PSO. 2,508,341 women were considered women without PSO. ^aExcept for RA, axSpA and CD, where women with moderate PSO had higher ORs for disease. Error bars are 95% confidence intervals. Mild PSO: antipsoriatic topicals, phototherapy, or no treatment. Moderate PSO: nonbiologic systemic antipsoriatic drugs (acitretin, ciclosporin, methotrexate) with the indication "against PSO". Severe PSO: biologic antipsoriatics (adalimumab, brodalumab, certolizumab pegol, etanercept, guselkumab, infliximab, ixekizumab, secukinumab, ustekinumab) administered at a department of dermatology. Psoriatic arthritis is left out of this figure due to high and outlying OR.



Psoriatic Arthritis in Patients with PSO



Presentation and clinical manifestation of psoriatic arthritis in female and male patients



Higher depression ¹	Higher disability scores and fatigue severity ²⁻⁴	
Higher disease activity ^{5,6}	Longer symptom duration ^{5,6}	More joint damage progression ⁵
Higher risk of treatment discontinuation ²	Higher tender joint count and more pain ^{5,6}	
More joints affected, generally polyarthritis, ⁷ and larger numbers of swollen joints ⁸		
Poorer functional prognosis ⁷	Higher levels of pain ⁷	
Higher drug retention rates in first years of treatment ²		
More frequent oligoarticular involvement ²		
Greater prevalence of skin lesions ⁶		



General risk of PsA in patients with PSO: ~45x general population⁹

Compared to men, **women with psoriatic arthritis** in the Utah Psoriatic Initiative (UPI) Arthritis cohort scored:¹⁰

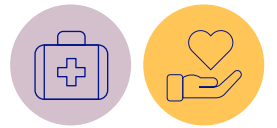


Higher pain and fatigue

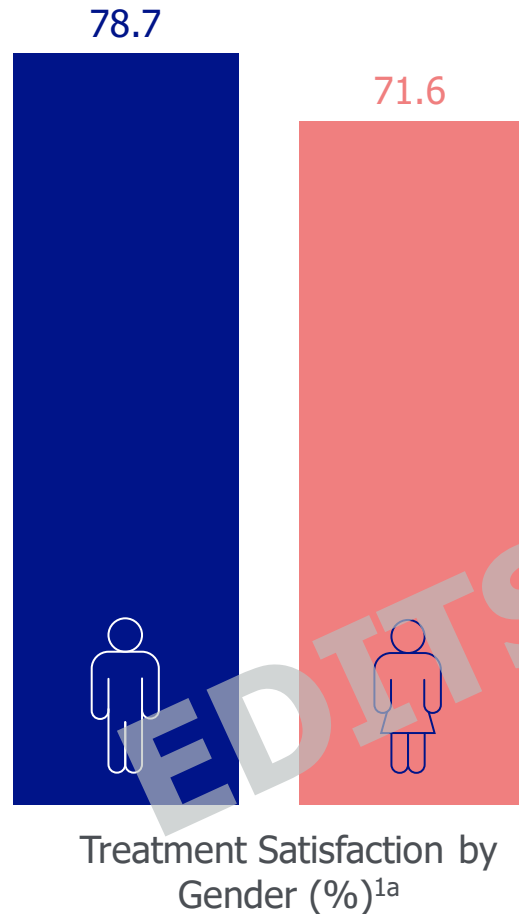


Lower QoL

Lower Biologic Treatment Satisfaction in Women



Treatment satisfaction corresponds with adherence, patients' preference and health-related quality of life¹



Treatment Satisfaction by Gender (%)^{1a}

Female sex is a predictor of biologics discontinuation in drug-survival analysis²

Results from the CORRONA registry showed that women are less likely to have a BSA response to anti-TNFs in comparison to men (AOR=0.53). However, these results should be interpreted with caution due to residual confounding²

Women are more likely to experience:



- Acute infections during treatment with biologic drugs^{3,4}
- More side effects when treated with a systemic agent.^{3,5} Sex differences in pharmacokinetics strongly predict sex-specific toxicities for women²
- Higher rates of TRAEs and drug-related discontinuation⁶

KEY MESSAGE

Lower treatment satisfaction and increased side effects for women may contribute to the increased risk of treatment discontinuation in women compared to men.^{1,3} Sex stratification should be taken into consideration when designing studies in the patient-tailored management of psoriasis.⁶

Different Perceptions from Patients and HCPs about Treating Women with PSO



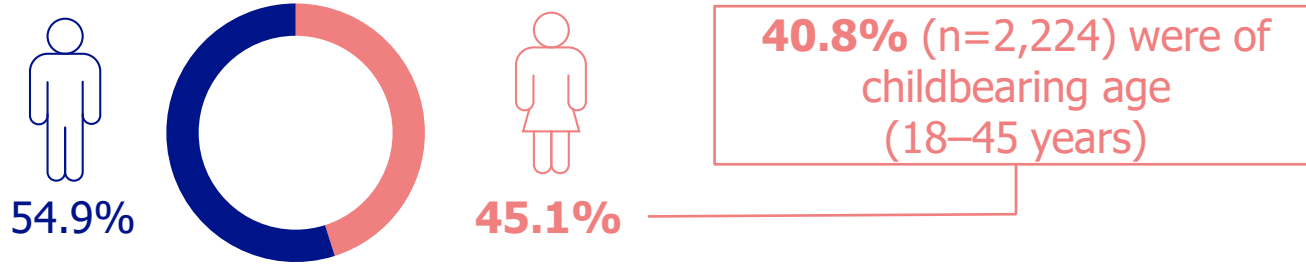
	Patient Perceptions 	HCP Perceptions 
Symptoms and Diagnosis	<p>Initial symptoms seen as non-serious and ignored¹</p> <p>Lower acceptance of their condition than men^{2,3}</p> <p>Lower self-esteem correlated with severity of psoriatic symptoms³</p>	<p>Slow referral to dermatology^{1,9}</p> <p>Limited discussion of pregnancy^{10,11}</p>
Treatment	<p>Concerns about treatment affecting the ability to conceive/impact on the fetus^{4,5}</p> <p>Balancing concerns that the treatment will harm the baby vs the concerns that the disease could worsen by stopping or changing treatment before or during pregnancy or during breastfeeding⁶</p>	<p>Most dermatologists feel uncomfortable treating pregnant patients with biologics:^{10,12}</p> <ul style="list-style-type: none"> • 57% consider their knowledge on the impact of treatments on pregnancy suboptimal • 54% reported being comfortable with prescribing anti-TNFs for women of childbearing age
Monitoring	<p>Flare ups in highly visible areas add to the greater psychological burden for women^{7,8}</p>	<p>Most dermatologists are unfamiliar with recommendations for treating women of childbearing age¹³</p>
Long-term	<p>High stress, loneliness and stigma lead to lower overall happiness⁵</p>	<p>—</p>

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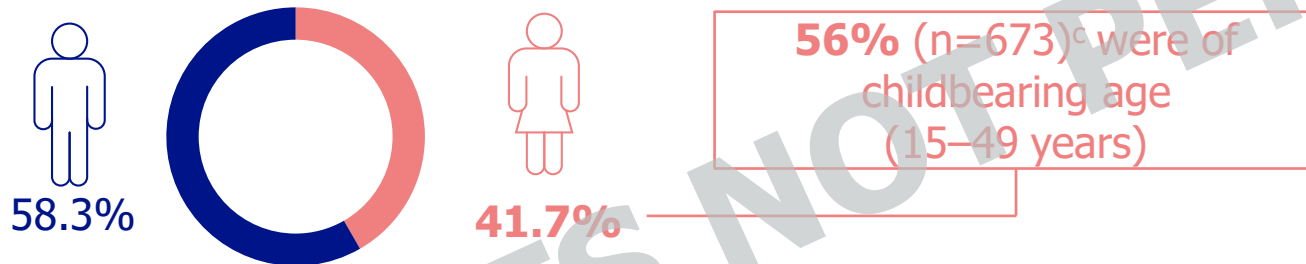
1. Mechili EA et al. Popul Med. 2019;1:4. 2. Jankowiak B et al. Clin Cosmet Investig Dermatol. 2021;14:1139–1147. 3. Kowalewska B et al. Dermatol Ther (Heidelb). 2022;12:529–543. 4. Kavanaugh A et al. Arthritis Care Res (Hoboken). 2015;67:313–325. 5. McBride SR et al. Int J Womens Dermatol. 2021;7:697–707. 6. Jiménez Gómez A et al. Actas Dermosifiliogr. 2024;115(1):10–20. 7. Timotijevic ZS et al. Acta Dermatovenerol Croat. 2017;25:215–222. 8. Merola JF et al. Dermatol Ther. 2018;31:e12589. 9. Lebwohl MG et al. J Am Acad Dermatol. 2014;70:871–881. 10. Murray S et al. BMJ Open. 2021;11:e043960. 11. Maccari F et al. J Eur Acad Dermatol Venereol. 2019;33:880–885. 12. Gottlieb AB et al. Int J Womens Dermatol. 2019;5:141–150. 13. De Simone C et al. G Ital Dermatol Venereol. 2020;155(4):434–440.

So What About Women of Childbearing Age?

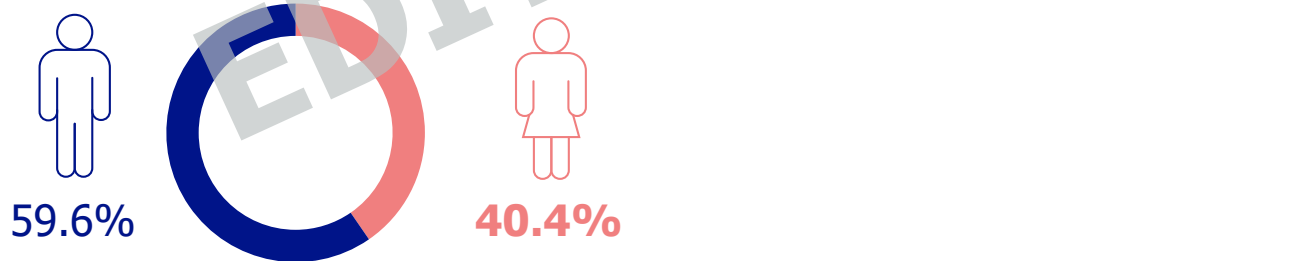
PSOLAR¹ | 12,090 patients with moderate-to-severe PSO^a



BIOBADADERM² | 2,881 patients with moderate-to-severe PSO^b



PsoBest and SDNTT^{3d} | 5,346 patients with moderate-to-severe PSO^e



~20% of the populations were women of fertile age.^{1,2} However, compared to the general population:

Women with moderate-to-severe PSO have **lower fertility rates** (p <0.001)⁴

Women with PSO have **22% lower likelihood of pregnancy**⁵

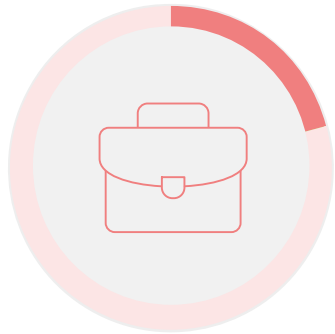
34% of women with PSO have **smaller families** due to their psoriatic disease^{6f}

27% of women with PSO are **more likely to adopt children** due to their psoriatic disease^{6f}

^aAs published in 2021. ^bAs published in 2021. ^cCalculated as 56% of 1,201 women and rounded to 0 dp. ^dPsoBest, n=4896; Swiss Dermatology Network of Targeted Therapies (SDNTT), n=450. ^eAs published in 2021. ^fMultinational survey across 11 European countries completed by female members of patient associations/panels aged 18–45 years, including 236 women with PSO.

1. Kimball AB et al. JAMA Dermatol. 2021;157(3):301–306. 2. Hernández-Fernández CP et al. Acta Derm Venereol. 2021;101:adv00354. 3. Maul JT et al. Br J Dermatol. 2021;185(6):1160–1168. 4. Chen T-C et al. JAMA Dermatol. 2023;159(7):736–744. 5. Gottlieb AB et al. Int J Womens Dermatol. 2019;5(3):141–150. 6. McBride SR et al. Int J Womens Dermatol. 2021;7(5):697–707.

Impact of PSO on Women of Childbearing Age (1/2)



21%

Reported that they had not achieved their desired career due to PSO and/or PsA



33%

Limited social life due to their psoriatic disease



57%

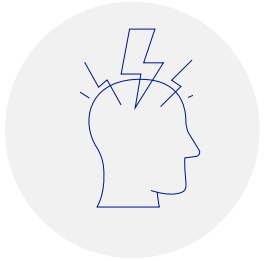
Reported a moderate or low level of support from healthcare professionals



55%

Had a moderate or low level of support from HCPs in managing their condition during pregnancy^a

Impact of PSO on Women of Childbearing Age (2/2)



Health and wellbeing:

Women of childbearing age with PSO have **worse general health and higher levels of anxiety/depression** compared to same-age men despite lower PASI



QoL:

Women of childbearing age with PSO have **more QoL impairments** compared to same-age men and older women

Specific needs reported by women of childbearing age with PSO:

“to be able to lead a normal working life”

“to be able to have a normal sex life”

“to regain control of the disease”

“to be less burdened in your partnership”

“to be comfortable showing yourself more in public”

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Abbreviations

	Description
AOR	Adjusted odds ratio
axSpA	Axial spondyloarthritis
BSA	Body surface area
CD	Crohn's disease
CLCI	Cumulative Life Course Impairment
DLQI	Dermatology Life Quality Index
HCP	Healthcare professional
OR	Odds ratio
PASI	Psoriasis Area and Severity Index
PRO	Patient-reported outcome
PsA	Psoriatic arthritis
PSO	Psoriasis
QoL	Quality of life
RA	Rheumatoid arthritis
SDNTT	Swiss Dermatology Network of Targeted Therapies
SF-36	36-Item Short Form Health Survey
TNF	Tumor necrosis factor
TRAE	Treatment-related adverse event

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